REMARKS

In order to move prosecution of the present application forward, Applicant has amended the claims to focus on one embodiment disclosed therein. Applicant reserves the right to present or re-present, in future proceedings before the office, embodiments not claimed in the presently pending claims.

By the present amendment, claims 1, 4, 5, 13-15, 17, 20, 21, 24, 25, and 28-30 have been amended. Claims 19, 26, and 27 have been canceled. Claims 1-18, 20-25, and 28-30 are thereby pending in the present application. Allowance of the pending claims in view of the amendments and the following remarks is respectfully requested.

A. Response to Rejection of Claims 20-23 under 35 USC §101

Claim 20 is an independent claim, from which 21-23 depend. Claim 20 has been amended to show specific, concrete action on memory readable by an animation engine as it relates to the two segments previously claimed. Applicant believes this amendment defines sufficient structural, functional interrelationships, and resulting actions in a memory to be patentable subject matter. Since claims 21-23 inherit the elements from claim 20, for the same reason claims 21-23 also now recite patentable subject matter. Applicant respectfully requests withdrawal of the 35 USC §101 rejection thereby.

B. Response to Rejection of claims under 35 USC §103(a)

In the office action, each pending independent claim (1, 13, 17, 20, 24) was rejected as unpatentable over a combination of Carmel (U.S. Patent 5,841,432) and Berend (US Patent 5,692,117). The applicant respectfully traverses this rejection as discussed below.

1. Each Independent Claim Has Been Amended To More Clearly Define A Functional Memory Limitation

In amended claims 1, 13, and 24 there is now an additional limitation with "maximum". The added limitation is that "maximum" indicates a maximum amount of memory usable for loading images/objects. The specific wording used to incorporate this functional relationship and limitation in each claim varies as needed to fit the syntax and matter in the claim; using claim 1 as an exemplar, the wording is "...determining a maximum size, the maximum size related to a maximum amount of memory usable to load images...". Maximum is then used as an upper bound on how large a set of images can be: "...set of the images which aggregate to a size up to the maximum size..." where "images" is defined to be "displayable images", so it is clear the images being claimed herein are not parts of images that need to be combined with other parts or files to create a single displayable image.

Neither Carmel nor Berend (assuming, *arguendo*, there is a teaching to combine) disclose these limitations. Carmel discloses the use of what he calls a "general information block" which contains the total number of frames to be transmitted over a network, and further discloses the use of a two-byte length indicator transmitted with each segment (col. 4 lines 53-67, col. 5 lines 1-7). This was asserted as disclosing a maximum. Carmel actually does *not* disclose a maximum; rather, Carmel simply discloses a reporting of a size of transmitted data to allow the receiving machine to know when the end of the data block has arrived. The OA asserted that reporting a size of file was the same as a maximum, to which Applicant respectfully disagrees. However, to move prosecution forward claims 1, 13 and 24 have been amended to claim one specific use of "maximum", as a maximum amount of memory usable for loading files or images.

Further, Carmel does not disclose the limitation of "aggregate to a size up to a maximum size" as asserted in the OA (page 4, line 3). Carmel does not disclose aggregating of image sizes and then relating the aggregate to a maximum size.

Additionally, Carmel does not disclose the sizing of images (as used in the present disclosure) at all. Applicant uses the word image to be the complete representation of the thing that will be displayed (a set of information in digital form that in-and-of-itself comprises a displayable image), not components of images, such as Carmel's "layers". Carmel uses the word "frame" similarly to the present application's "image". Carmel uses the word "image" to be one of the components of a frame, which is different than the concept of "image" as used in this disclosure (see, e.g., Carmel's Abstract). Carmel does not disclose transmitting images in his disclosure; rather, Carmel's entire disclosure is to the breaking apart of a single image into components of frames, and then transmitting the components for reconstruction *after* transmission to the target computer (see, e.g., col. 4 lines 1-3). Thus, Carmel does not disclose even the size of a complete image, as Carmel does not know that until the image is reconstructed on the target computer. What Carmel discloses is the size of the transmitted data needed to reconstruct an image, not the size of an image itself. Thus, Carmel does not disclose aggregating the size of a set of images as is presently claimed. If the Examiner disagrees, Applicant respectfully requests cites in Carmel to the aggregating of the size of a set of images and then comparing the size of the set of images (frames) to a maximum as claimed.

Respectfully, Applicant further wishes to point out that the word "segment" is defined and used differently between Carmel and the present disclosure. Carmel defines "segment" to be the data needed to create a frame, which includes "layers" of display information (col. 4 lines 8-14, 31-45). This is *not* the same "segment" as used in the present disclosure, nor as used in the claims herein, which is defined to be a set of images and a callback identifier. Thus, as Carmel used "segment" to mean a collection of data (including "layers") need to create *one* frame, and the presently claimed invention defines and uses segment to mean a *set* of images which comprise a portion of an animation sequence, Carmel does not disclose sizing of a set of images.

Berend does not disclose a maximum related to available memory, or an aggregated size of a set of images to a maximum, that Applicant could find. Thus, Berend does not

provide these elements either. If the Examiner disagrees, Applicant respectfully requests cites in Berend to this limitation.

Finally, although not used in the rejection of prior independent claims, Crosby is discussed here as it was asserted in the OA as disclosing the following: "Crosby teaches wherein the maximum size is set at a memory size (column 8, lines 13-43) ...". The cited langue is given below.

> "Further optimization is possible, through the grouping of records into super-records that take advantage of the natural buffering techniques of the computer to be used. Thus, all the records of the animation file may be read into the computer memory at first or may be read in large groups of "super" records depending on the file size and computer memory size. This reduces pauses and jerks in the animated display caused by reading the records intermittently simultaneously with the animated display. When using "super" records, the records may be divided into any suitable number. *It is not desirable to divide the file in such a manner that empty files will be read. For example, reading a thousand records at a time as a "super" record when the file only contains twelve hundred records would result in reading eight hundred empty records.* In one example, an animation display consisted of an animation file having seventy five thousand records. In this case, "super" records were utilized containing ten thousand records each.
> Other considerations may include file input during the animation display. If the file size is kept within the limit of what may be entirely read into main memory, then all input can be accomplished prior to the animation display, eliminating undesirable pauses due to file access. This is also a significant reason for designing the file structure so as to minimize the size of the file. In cases where delays during the animation display area not important, reduction of file access time is still desirable. " (Crosby, col. 8 lines 13-43, emphasis added)

Crosby is disclosing an animation method that uses "records" in the sense of a database record; it is a row, corresponding to one entry in a database, or in this case, one command line. See, e.g., col. 8 lines 3-9. Commands, or records, are instructions read by a program that uses the instructions to generate changes in a scene (instructions on what pixels to change) when going from one scene to a next scene. Crosby discloses all the records needed for an animation sequence are stored in a file. See, e.g., col. 9 lines 31-42. In the cited language, Crosby discloses "super-records", which is a collection of records (commands or instructions, not images as in the presently claimed invention). Crosby then discloses his method, which is: if you can't read all the records at a single time, size the number of records to the "natural" size as dictated by the buffering techniques of the computer (first sentence in cited language). He then discloses (italicized language) the example where the super-record is not sized correctly for the computer's buffering algorithms, which results in a large number of empty records being read. Finally, Crosby

discloses that his preferred method is to have the file containing all the records (commands) be the size that fits into memory.

Buffering size is not the same as memory size; typically buffering size includes primary memory, L1, L2 and any other caches on-chip, any caches external to the CPU chip, and a dedicated area of space on a disk used for file transfers (disk read/write buffer space). Thus, the use of buffering does not disclosure what is being claimed.

Crosby does not disclose the elements claimed in presently pending independent claims 1, 13 and 24. Crosby does not disclose a maximum, related to an amount of memory usable to load images (not Crosby's records), and an aggregate of image sizes that is less than or equal to the maximum. As discussed above for Carmel, an image has been defined to be a "displayable image" to be clear Applicant is not claiming Crosby's commands (text records) that are used to modify a display. Thus, Crosby discloses (i) loading a set of records (not images) in accordance with the buffering techniques used by the computer, or, (ii) sizing a single records file to be a size that fits into memory, without any further disclosure on what that means; neither of which are being claimed.

At the least, independent claims 1, 13 and 24 have the limitations of: a maximum related to memory available for loading displayable images, and, aggregating the sizes of a set of images to be no larger than the maximum and keeping the results in segment files, that are not disclosed in Carmel, Berend, or Crosby, alone or in combination.

Continuing with claims 17 and 20, the relationship between media/segment files and memory size is claimed by reciting the limitation that at least some of the memory used during the loading the content associated with a first media/segment file must be made available for loading (released) before loading of a second segment/media. To the best of Applicant's knowledge, this concept of memory usage linked to media/segment files is not disclosed in Carmel, Berend, or Crosby. If the Examiner disagrees, Applicant respectfully requests specific cites disclosing this limitation. Thus, at the least claims 17 and 20 have this limitation which is not disclosed in the cited art.

2. Neither Carmel Nor Berend Disclose A Callback Identifier For Segment Files, As Defined And Claimed

Referring to independent claim 1 as representative of the elements found in each pending independent claim, the claimed elements include a first segment file and a second segment file, with each segment file comprised images. The first segment file also has a callback identifier pointing to the second segment file. Each segment file, when retrieved, is used to load the set of images associated with it into a memory. A segment file is able to identify, call, and enable the loading of a next segment file. See, e.g., the first two paragraphs of the "Summary" section of the present disclosure.

By having a previous animation segment identify a next animation segment, the animation segments are linked into an order. Each segment file contains a list of images or image files. This allows the images associated with a segment file to be loaded into memory, shown on a display, and using the segment file's "callback identifier" the next segment file is retrieved. This next segment file has a list of images files to load into memory and show, with the operational sequence being repeated until a last segment file has a callback identifier that is also an end identifier, ending the sequence. This enables embedded processors to play long animations.

Neither Carmel nor Berend disclose a callback identifier for a segment as claimed. As stated in the OA, Carmel "does not specifically teach retrieving the callback identifier from the first segment file, using the callback identifier to load the second set of images into the animation processor according to the second segment file ...". Such a callback is not used in Carmel, since Carmel does not address the ordering of animation segments. As discussed above, Carmel carefully defines "segment" to be a single, individual frame, where a frame is an image, where each frame has a plurality of parts or layers. In operation, Carmel first sends a "general information" block, and then sends the data used to generate a frame on the target machine in sequential display order (col. 4, lines 45-54). Accordingly, no callback identifier or callback function is disclosed.

To fill in these missing elements, Berend is cited. However, Applicant believes Berend also fails to disclose a callback identifier as disclosed and claimed herein. The OA cites language in Berend pointing to the use of linked lists for certain tables (AO, page 5, first paragraph). After describing the use of linked lists in Berend, the OA states (starting on page 5, line 8) that "... key frames or interpolated frames are stored as segments or sub-segments which are also stored as linked lists ... retrieving the callback identifier from the first segment file ...i.e., the callback identifier is a link comprising a pointer from the previous keyframe file to the next keyframe file to be loaded and displayed ...".

Applicant's claimed segment files and callback ID are not the same as the files and file links in Berend. Berend uses linked lists with his key frames (each key frame is part of an image which can, eventually, be combined with other information and frames to form an image). However, Berend's discloser is for the use of linked lists of frames that are not, by themselves images. Further, *arguendo*, even if Berend's frames were assumed to be the same as Applicant's images, the use of links between frames is not what is being claimed by Applicant.

Applicant's claimed segments are comprised of images (a set of references to image files, or, in one embodiment, a set of images in the segment file), *not* to parts of images that must be combined with other parts of images to form a final image. Berend is disclosing an animation generation and editing system, so the system (for editing and generation of interpolation frames for moving characters) separates an image into components such as individual characters. Contrarily, Applicant's segment file contains a list of complete image files; each file does not need to be combined with any other before being used for display purposes.

As the OA discussed, Berend discloses the use of links between frames. That is not what is being claimed in the pending claims; the image files of the presently claimed invention are not linked to each other as in Berend. The files that are linked in the presently pending claims are the segment files. The pending claims have the structure of a plurality

of segment files, each segment file having a set of associated images (where each image is a complete image), and pointing to one other segment file. Link traversal comprises going, in a sequential manner, from segment file to segment file. Berend does not disclose this structure. As explained in the OA, Berend discloses links going from frame to frame. Berend also discloses a hierarchical file structure for files pointing to frame files (e.g., figures 12, 13a-13e). As far as Applicant can determine, Berend does not disclose the claimed structure, where linking is at a higher level than Berend's frame-file-links. This is a significant structural difference.

The OA finishes rejecting claim 1 by stating that "Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method for displaying an animation of Carmel et al. to include the teachings of Berend et al. thereby enabling frames, sub-sequences or sequences to be moved in time by breaking and replacing links on either side of the frame, sequence, or subsequence." First, the combination of Carmel and Berend does not disclose "...enabling ... sub-sequences or sequences to be moved in time"; Berend discloses moving individual frames in a time sequence. Further, the pending claims do not use Berend's frame-links (frames are partial images) and do not claim the movement of frames in a time sequences by breaking existing links and making new links between frames.

Thus, neither Berend nor Carmel, individually or taken together, disclose the claimed functional relationships between the elements in the method claimed. *Arguendo*, assuming there is a teaching to combine Berend and Carmel, the claimed elements of a first segment file referencing a set of loadable image files, and a callback identifier which identifies a next segment file which has a set of loadable images, and where there are no links linking the image files between each other, are still not present.

3. Neither Carmel, Berend, Or Crosby Disclose Each Element Of The Presently Pending Independent Claims

For claim 1, as described above, at the least neither Carmel, Berend, or Crosby disclose each element of a combination having at least: a maximum related to a maximum amount of space usable to load images, a first and a second set of images, each of whose aggregate size is defined as up to the maximum, a first segment having a callback identifier and the first set of images, retrieving that callback identifier from the first segment to identify a second segment file, and using the callback identifier to retrieve the second segment file and load the second set of images, where the image files are not linked. Accordingly, Applicant respectfully submits that Carmel and Berend do not render claim 1 obvious.

For claim 13, as discussed above, at the least neither Carmel, Berend, or Crosby disclose each element of a combination having at least: a maximum related to a maximum amount of space usable to load images, dividing up a set of animation images into subsets if images where each subset has an aggregate size is up to the maximum, where individual images are not linked to another images, and where each subset is an animation segment having a callback identifier usable for retrieving another animation segment. Accordingly, Applicant respectfully submits that Carmel and Berend do not render claim 13 obvious.

For claim 17, as discussed above, at the least neither Carmel nor Berend disclose each element of a combination of at least: receiving an instruction to display an animation followed by retrieving a first segment file, loading images associated with the first segment file, extracting a callback identifier from the first segment file, releasing at least a portion of the memory used by the images loaded using the first segment file, retrieving a second segment file using the callback identifier and loading the images associated with the second segment file. Accordingly, Applicant respectfully submits that Carmel and Berend do not render claim 17 obvious.

For claim 20, as discussed above, at the least neither Carmel nor Berend disclose each element of a combination of at least: a first and a second segment file each comprising a subset of image files where the individual image files are not linked to each other and a

callback instruction is associated with the first segment file associated with a file identifier for the second segment file, and releasing at least a portion of the memory used by the images loaded using the first segment file before loading the images associated with the second segment file. Accordingly, Applicant respectfully submits that Carmel and Berend do not render claim 20 obvious.

For claim 24, as discussed above, at the least neither Carmel nor Berend nor Crosby disclose each element of a combination of at least: receiving a media sequencing file, associating a callback identifier with a second media object, providing the callback identifier to a first media object, loading the first media object, retrieving the second media object's callback identifier, loading the second media object which is an animation file where the animation file is associated with a first and second segment file, the first segment file have a callback identifier to the second file, and where each segment file has images whose size does not exceed a maximum amount of memory. Accordingly, Applicant respectfully submits that Carmel and Berend do not render claim 24 obvious.

4. Neither Carmel, Berend, Or Crosby Disclose Each Element Of The Presently Pending Dependent Claims

As each pending dependent claim (2-12, 14-16, 18, 21-23, 25, and 28-30) inherits the limitations of the independent claim from which it eventually depends, for the same reasons discussed above each pending dependent claim is also not obvious in light of Carmel and Berend. Crosby and Obrador also do not account for the missing elements.

C. Conclusion

For all the foregoing reasons, an allowance of claims 1-18, 20-25, and 28-30 pending in the present application is respectfully requested.

Respectfully submitted,

Dated: 29-Aug-06

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